

LONDON- WEST MIDLANDS ENVIRONMENTAL STATEMENT

Volume 5 | Technical Appendices

CFA21 | Drayton Bassett, Hints and Weeford

Baseline (SV-002-021)

Sound, noise and vibration

November 2013

LONDON- WEST MIDLANDS ENVIRONMENTAL STATEMENT

Volume 5 | Technical Appendices

CFA21 | Drayton Bassett, Hints and Weeford

Baseline (SV-002-021)

Sound, noise and vibration

November 2013



Department
for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

A report prepared for High Speed Two (HS2) Limited.

High Speed Two (HS2) Limited,
Eland House,
Bressenden Place,
London SW1E 5DU

Details of how to obtain further copies are available from HS2 Ltd.

Telephone: 020 7944 4908

General email enquiries: HS2enquiries@hs2.org.uk

Website: www.hs2.org.uk

High Speed Two (HS2) Limited has actively considered the needs of blind and partially sighted people in accessing this document. The text will be made available in full on the HS2 website. The text may be freely downloaded and translated by individuals or organisations for conversion into other accessible formats. If you have other needs in this regard please contact High Speed Two (HS2) Limited.



Printed in Great Britain on paper
containing at least 75% recycled fibre.

Appendix SV-002-021

Environmental topic:	Sound, noise and vibration	SV
Appendix name:	Baseline	002
Community forum area:	Drayton Basset, Hints and Weeford	021

Contents

Appendix SV-002-021	1
1 Introduction	3
1.1 Structure of the sound, noise and vibration appendices	3
1.2 Existing acoustic environment	3
2 Scope, assumptions and limitations	5
2.1 Sound and vibration sensitive receptors	5
2.2 Local engagement	5
2.3 Existing baseline sound monitoring locations	5
3 Environmental baseline	7
3.1 Existing baseline data collection methodology	7
3.2 Existing baseline sound levels	8
3.3 Future baseline methodology	15
4 References	17
 List of tables	
Table 1: Existing baseline sound levels	9
Table 2: Data source coding key	15
Table 3: 2026 future baseline changes in sound sources	16

1 Introduction

1.1 Structure of the sound, noise and vibration appendices

- 1.1.1 The sound, noise and vibration appendices comprise four sections. The first of these is an introduction to the relevant policy and methodology (Appendix SV-001-000). This relates to the sound, noise and vibration assessment for all community forum areas.
- 1.1.2 For the Drayton Basset, Hints and Weeford community forum area (CFA21), the other three sections are as follows:
- baseline sound, noise and vibration (Appendix SV-002-021) (this appendix);
 - construction sound, noise and vibration (Appendix SV-003-021); and
 - operational sound, noise and vibration (Appendix SV-004-021).
- 1.1.3 Maps referred to throughout the sound, noise and vibration appendices are contained in the Volume 5 map book.
- 1.1.4 This appendix includes details of the existing and future baseline sound environment within the area. It provides details of measurements and any other data collection which has been undertaken in order to obtain existing and future baseline sound levels.

1.2 Existing acoustic environment

- 1.2.1 The study area is predominantly rural in character, with agriculture and forestry the predominant land uses. The study area is sparsely populated, with only two small villages and a scattering of isolated farmsteads and dwellings. Away from the main transportation routes, the sound climate is dominated by natural sound sources and agricultural activity noise. The A38 and M6 Toll run parallel north-south through the area with a major west-east connection with the A5 to the north of Weeford, while the A4091 borders the study area to the east. Close to these main arterial routes, the noise climate is characterised by traffic noise both during the day and night-time periods.
- 1.2.2 The villages of Weeford and Hints are located in the mostly rural area between the A5 and the A38. The soundscape is characterised by distant road traffic noise both from these roads, occasional local road traffic and community noise from normal every day residential activities. Away from the main roads, the noise climate is dominated by natural sound sources (i.e. tree rustling, bird song, and livestock), and the existing baseline noise level is 50-55dB¹ during the day and 40-45dB² at night. In areas closer to the A5, the typical daytime baseline noise levels are 60-65dB and 55-60dB at night. In the agricultural area to the south of Hint, between Rookery Lane and Bangley Lane, the existing baseline noise levels are subjectively low (substantially lower than 50dB daytime and/or 40dB night-time). The acoustic environment being characterised by little or no appreciable man-made sound, this is therefore considered to be a unique feature of the existing sound environment.

¹ 16-hour daytime (07:00 to 23:00) equivalent continuous sound pressure level, $L_{pAeq,16hr}$.

² 8-hour night-time (23:00 to 07:00) equivalent continuous sound pressure level, $L_{pAeq,8hr}$.

- 1.2.3 In the vicinity of Drayton Bassett, the noise climate is dominated by natural sound sources with contributions from transportation noise sources, namely the A453 Sutton Road, which traverses the study area from north-east to south-west, and Drayton Lane leading into Drayton Bassett. The existing daytime baseline noise level in Drayton Bassett is 50-55dB. At night these sound sources also contribute to the overall noise climate, with typical baseline noise levels during night time in the range 45-50dB.

2 Scope, assumptions and limitations

2.1 Sound and vibration sensitive receptors

2.1.1 Within the Drayton Bassett, Hints and Weeford area, 90 assessment locations have been defined to represent all sound and vibration sensitive receptors within the spatial scope of the assessment. The assessment locations are shown on the detailed maps in Map Series SV-03 and SV-04 (Volume 5 CFA21 map book). Within this area, the following types of sound and vibration sensitive receptors have been identified:

- residential areas;
- education facilities;
- community centres and meeting facilities; and
- places of worship.

2.2 Local engagement

2.2.1 Meetings have been held with representatives of Lichfield District Council and Staffordshire County Council regarding the approach which has been taken to baseline monitoring within this area, the identification of noise and vibration sensitive receptors and the selection of assessment locations.

2.2.2 Changes suggested during these meetings have influenced the assessment locations used and the monitoring undertaken and reported in this appendix.

2.2.3 Representatives of Lichfield District Council and Staffordshire County Council have also attended baseline sound measurements in this area and witnessed the measurement procedures used.

2.2.4 Local engagement through community forum meetings has also provided the opportunity for local groups to suggest appropriate baseline sound monitoring locations. Any suggestions received from these groups have been considered and influenced the monitoring undertaken and reported in this document.

2.3 Existing baseline sound monitoring locations

2.3.1 Baseline monitoring locations have been defined in order to provide representative sound levels at each assessment location within the study area

2.3.2 Baseline information has been gathered incrementally through successive rounds of field surveys focused on locations where likely significant effects are forecast.

2.3.3 Areas within the study area where baseline data is required have been broken down into a series of smaller sub-areas. Each of these is representative of clusters of receptors where the noise climate is influenced by the same sound sources. Within each of the sub-areas, a programme of unattended monitoring has been undertaken, supplemented by attended measurements to ensure good coverage at all the identified sound assessment locations. All attended measurements have been undertaken simultaneously with the unattended measurements to allow a direct comparison between assessment locations to be established.

- 2.3.4 After each successive round of field surveys, the collected data has been analysed, and based upon feedback from on-going stakeholder dialogue, the measurement locations refined for subsequent rounds.
- 2.3.5 Maps showing the baseline sound monitoring locations and assessment locations with this area are included in Map Series SV-03 and Sv-04 (Volume 5 CFA21 map book).

3 Environmental baseline

3.1 Existing baseline data collection methodology

- 3.1.1 The overall approach to baseline data collection for sound noise and vibration is described in Appendix SV-001-000.
- 3.1.2 In the Drayton Bassett, Hints and Weeford area, a number of baseline sound measurements have been undertaken. These have been classified as follows:
- nine long-term measurements – unattended measurements of several days duration; and
 - thirteen short-term measurements – attended measurements typically of 30 minutes duration (generally repeated at different times of day).
- 3.1.3 The following paragraphs (3.1.4 to 3.1.8) describe a select number of the total number of baseline measurement locations where baseline measurements were undertaken.
- 3.1.4 In Weeford, seven-day unattended baseline sound monitoring has been carried out at noise sensitive receptors in the agricultural area adjacent to Rock Hill, south of the A5. This long-term measurement was supplemented with three short-term satellite measurements undertaken in the rural areas surrounding Rock Hill, namely Hungry Lane and Flats Lane during both the day and night-time periods.
- 3.1.5 In the agricultural area north of Weeford, between the A5 and the A51, there are a number of individual residential properties that are spatially remote from larger defined residential areas. To assess the noise climate at these receptors, two long-term noise monitoring positions were set up near Jerry's Lane. Additional short-term measurements were undertaken at rural properties representative of the noise sensitive receptors on Jerry's Lane, Flats Lane and Levett Road. All satellite monitoring locations were visited at several times of the day and night and were undertaken simultaneously with the longer duration monitoring to allow good correlation between the two locations.
- 3.1.6 Within Hints, baseline measurements have been undertaken in the north and south of village. Long-term noise monitoring was undertaken on School Lane, on the western edge of the village and on land adjacent the southern village boundary. A further long-term measurement was undertaken on agricultural land in the vicinity of residential properties on Rookery Lane. Simultaneous short-term measurements were carried out at different times of day and night on Watling Street and School Lane.
- 3.1.7 The area between Hints and Drayton Bassett is predominantly agricultural and is traversed from north-east to south-west by the A453. A long-term noise monitoring location was set up on Bangley Lane, north of the A453 and supplemented by day and night-time short-term measurements at noise sensitive properties on Waggoner's Lane and at the junction between Bangley Lane and the A453.
- 3.1.8 South of the A453, two additional long-term noise measurements were undertaken near to residential properties in the vicinity of Sutton Road and Drayton Lane, while simultaneous satellite measurements were carried out at a number of locations

representative of noise sensitive receptors on Drayton Lane, Shirrall Drive and Portleys Lane.

3.2 Existing baseline sound levels

3.2.1 From the measurements described in Section 3.1, baseline sound levels have been ascertained for each assessment location within this area. These levels are presented in terms of the following key sound indicators:

- Baseline levels used for the operational sound assessment:
 - $L_{pAeq,16hr\text{ weekday}}$ daytime (07:00-23:00) sound pressure level;
 - $L_{pAeq,8hr\text{ weekday}}$ night-time (23:00-07:00) sound pressure level;
 - arithmetic average of $L_{pAFmax,5min}$ night-time sound pressure level; and
 - highest $L_{pAFmax,5min}$ night-time sound pressure level.
- Baseline levels used for the construction sound assessment:
 - daytime L_{pAeq} sound pressure level (Monday to Friday 07:00-19:00; Saturday 07:00-13:00);
 - evening/weekend L_{pAeq} sound pressure level (Monday to Friday 19:00-23:00; Saturday 13:00-23:00; Sunday 07:00-23:00); and
 - night-time L_{pAeq} sound pressure level (Monday to Sunday 23:00-07:00).

3.2.2 These values are presented in Table 1. The data source coding included within this table details how the baseline sound levels allocated to each assessment location have been derived. This coding is summarised in Table 2 and explained in detail in Appendix SV-001-000.

Table 1: Existing baseline sound levels

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding ³
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/ Weekend L _{pAeq}	Night-time L _{pAeq}	
8910	Church Hill, Weeford, Lichfield	CN029S	52.3	49.6	50.2	74.4	55.3	50.1	48.1	2,A,i,c
8926	Hungry Lane, Weeford, Lichfield	CN135S	67.6	60.8	77.8	79.0	68.2	63	60.6	2,A,i,c
9023	Rock Hill, Weeford, Lichfield	CN136S	62	51.9	51.1	52.0	62.6	57.5	51.7	2,C,ii,c
9030	Dog Lane, Weeford, Lichfield	CN029S	49.3	46.6	47.2	71.4	52.3	47.1	45.1	2,C,ii,c
9371	Dog Lane, Weeford, Lichfield	CN029S	50.3	47.6	48.2	72.4	53.3	48.1	46.1	2,C,ii,c
9525	Rock Hill, Weeford, Lichfield	CN135S	67.6	60.8	77.8	79.0	68.2	63	60.6	2,A,i,c
9560	Brockhurst Lane, Canwell, Sutton Coldfield	CN038L	45.4	36.2	43.4	60.7	46.1	41.7	37.8	1,A,i,b
9584	Brockhurst Lane, Canwell, Sutton Coldfield	CN038L	45.4	36.2	43.4	60.7	46.1	41.7	37.8	1,A,i,b
9603	Rockery Lane, Canwell, Sutton Coldfield	CN038L	45.4	36.2	43.4	60.7	46.1	41.7	37.8	1,A,i,b
9637	Rockery Lane, Canwell, Sutton Coldfield	CN038L	45.4	36.2	43.4	60.7	46.1	41.7	37.8	1,A,i,b
9796	Rock Hill, Weeford, Lichfield	CN136S	63	52.9	53.1	54.0	63.6	58.5	52.7	2,A,i,c
10015	Church Hill, Weeford, Lichfield	CN029S	52.3	49.6	50.2	74.4	55.3	50.1	48.1	2,A,i,c
10102	Rock Hill, Weeford, Lichfield	CN135S	67.6	60.8	77.8	79.0	68.2	63	60.6	2,A,i,c
10142	Weeford Road, Weeford, Lichfield	CN029S	57.3	54.6	55.2	79.4	60.3	55.1	53.1	2,C,ii,c

³ Table 2 provides a data source coding key.

Appendix SV-002-021 | Environmental baseline

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding ³
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/ Weekend L _{pAeq}	Night-time L _{pAeq}	
10165	Flats Lane, Lichfield	CN134S	60.2	48.9	64.5	73.0	61	56.1	50.2	2,B,ii,c
10200	Flats Lane, Lichfield	CN134S	57.2	45.9	61.5	70.0	58	53.1	47.2	2,B,ii,c
10245	Flats Lane, Lichfield	CN134S	60.2	48.9	61.5	70	61	56.1	50.2	2,A,i,c
10260	Flats Lane, Lichfield	CN134S	60.2	48.9	61.5	70	61	56.1	50.2	2,A,i,c
10299	Flats Lane, Lichfield	CN009L	63.8	52.4	50.2	86	64.6	59.7	53.7	1,A,i,b
10309	Flats Lane, Lichfield	CN009L	60.8	49.4	50.2	86	61.6	56.7	50.7	1,B,ii,b
10331	Rock Hill, Weeford, Lichfield	CN010L	63.1	55.1	65.8	86.4	63.7	58.5	54.9	1,B,ii,b
10348	Rock Hill, Weeford, Lichfield	CN135S	67.6	60.8	77.8	79.0	68.2	63	60.6	2,A,i,c
10365	Flats Lane, Lichfield	CN010L	66.1	58.1	65.8	86.4	66.7	61.5	57.9	1,A,i,b
12757	Tamworth Road, Lichfield	CN082S	67.3	53.3	72.6	79	67.9	65.8	54.2	2,C,i,c
12760	Tamworth Road, Lichfield	CN082S	67.3	53.3	72.6	79	67.9	65.8	54.2	2,C,i,c
17039	Knox Grave Lane, Lichfield	CN009L	63.8	52.4	50.2	86	64.6	59.7	53.7	1,A,i,b
17064	Knox Grave Lane, Lichfield	CN009L	63.8	52.4	50.2	86	64.6	59.7	53.7	1,A,i,b
17154	Tamworth Road, Lichfield	CN037L	47	41	48.2	62	48.3	44.2	42.1	1,A,i,c
17207	Tamworth Road, Lichfield	CN037L	47	41	48.2	62	48.3	44.2	42.1	1,A,i,c
17209	Tamworth Road, Lichfield	CN037L	47	41	48.2	62	48.3	44.2	42.1	1,A,i,c
17292	Tamworth Road, Lichfield	CN082S	62.3	48.3	67.6	74	62.9	60.8	49.2	2,C,i,c
17298	Tamworth Road, Lichfield	CN083S	55.9	51.1	67.5	73.1	56.5	54.4	52.0	2,C,i,c
17311	Tamworth Road, Lichfield	CN083S	65.9	61.1	77.5	83.1	66.5	64.4	62.0	2,A,i,c
17316	Tamworth Road, Lichfield	CN083S	45.9	41.1	57.5	63.1	46.5	44.4	42.0	2,C,ii,c

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding ³
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/ Weekend L _{pAeq}	Night-time L _{pAeq}	
17420	Tamworth Road, Lichfield	CN083S	52.9	48.1	67.5	73.1	53.5	51.4	49.0	2,B,C,i,c
25308	School Hill Lane, Hints, Tamworth	CN011L	42.2	36.8	45.8	64.3	42.9	41.2	36.7	1,A,i,b
25326	Brockhurst Lane, Canwell, Sutton Coldfield	CN038L	45.4	36.2	43.4	60.7	46.1	41.7	37.8	1,A,i,b
25337	Hints, Tamworth	CN011L	42.2	36.8	45.8	64.3	42.9	41.2	36.7	1,A,i,b
25500	Drayton Lane, Drayton Bassett, Tamworth	CN053L	47.3	44.5	53.9	78.8	50.2	44.9	46.1	1,B,ii,b
25578	Drayton Lane, Drayton Bassett, Tamworth	CN013L	53.5	46.7	54.7	62.3	54.1	53.3	47.3	1,C,ii,b
25745	Bangley Lane, Hints, Tamworth	CN012L	50.3	46.4	53.2	79.7	51.4	54.5	47.4	1,A,i,b
25831	Bangley Lane, Hints, Tamworth	CN012L	50.3	46.4	53.2	79.7	51.4	54.5	47.4	1,A,i,b
25881	School Lane, Hints, Tamworth	CN011L	45.2	39.8	51.8	70.3	45.9	44.2	39.7	1,C,ii,c
26030	Hintsbrook, Hints, Tamworth	CN0138S	48.6	42.4	50.3	54.0	49.5	43.4	42.1	2,B,ii,c
26131	School Lane, Hints, Tamworth	CN138S	48.6	42.4	50.3	54.0	49.5	43.4	42.1	2,B,ii,c
26158	School Lane, Hints, Tamworth	CN052L	48.5	38.9	42	74.9	49.4	43.2	38.6	1,B,C,ii,b
26177	School Lane, Hints, Tamworth	CN052L	50.5	40.9	46	78.9	51.4	45.2	40.6	1,B,ii,b
26242	Rock Hill, Hints, Tamworth	CN137S	61.7	41.4	47.7	49.0	62.6	56.4	41.1	2,B,ii,c
26269	Rock Hill, Hints, Tamworth	CN137S	61.7	41.4	47.7	49.0	62.6	56.4	41.1	2,B,ii,c
26298	Rock Hill, Weeford, Lichfield	CN010L	66.1	58.1	65.8	86.4	66.7	61.5	57.9	1,A,i,b
26322	School Lane, Hints, Tamworth	CN137S	61.7	41.4	47.7	49.0	62.6	56.4	41.1	2,B,ii,c
26447	Rock Hill, Weeford, Lichfield	CN010L	56.1	48.1	55.8	76.4	56.7	51.5	47.9	1,C,ii,c

Appendix SV-002-021 | Environmental baseline

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding ³
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/ Weekend L _{pAeq}	Night-time L _{pAeq}	
26463	Carroway Head, Bangley, Tamworth	CN013L	63.5	56.7	70.7	78.3	64.1	63.3	57.3	1,BC,ii,b
26552	Sutton Road, Tamworth	CN013L	63.5	56.7	70.7	78.3	64.1	63.3	57.3	1,BC,ii,b
26582	Bangley Lane, Hints, Tamworth	CN012L	50.3	46.4	53.2	79.7	51.4	54.5	47.4	1,A,i,b
26608	Bangley Lane, Hints, Tamworth	CN139S	43.7	40.0	51.9	64.0	44.8	47.9	49.8	2,C,ii,c
26657	Bangley Lane, Hints, Tamworth	CN139S	44.7	41.0	53.9	66	45.8	48.9	50.8	2,A,i,c
26678	Bangley Lane, Hints, Tamworth	CN139S	44.7	41.0	53.9	66	45.8	48.9	50.8	2,A,i,c
26713	Bangley Lane, Hints, Tamworth	CN139S	41.7	38.0	53.9	66	42.8	45.9	47.8	2,B,ii,c
26826	Bangley Lane, Hints, Tamworth	CN139S	45.7	42.0	55.9	68.0	46.8	49.9	51.8	2,C,ii,c
26913	School Lane, Hints, Tamworth	CN138S	48.6	42.4	50.3	54	49.5	43.4	42.1	2,B,ii,c
27194	Rock Hill, Hints, Tamworth	CN137S	61.7	41.4	47.7	49	62.6	56.4	41.1	2,B,ii,c
27298	Drayton Lane, Drayton Bassett, Tamworth	CN053L	47.3	44.5	53.9	78.8	50.2	44.9	46.1	1,B,ii,b
27402	Drayton Lane, Drayton Bassett, Tamworth	CN053L	50.3	47.5	53.9	78.8	65.8	62.9	52.7	2,A,i,b
27539	Sutton Road, Tamworth	CN013L	46.5	39.7	50.7	58.3	47.1	46.3	40.3	1,C,ii,c
27560	Holding, Sutton Road, Tamworth	CN013L	61.5	54.7	65.7	73.3	62.1	61.3	55.3	1,C,i,b
27593	Sutton Road, Tamworth	CN013L	66.5	59.7	70.7	78.3	67.1	66.3	60.3	1,C,i,b
27614	Sutton Road, Tamworth	CN013L	56.5	49.7	60.7	68.3	57.1	56.3	50.3	1,A,i,b
28047	School Lane, Hints, Tamworth	CN052L	48.5	38.9	46	78.9	49.4	43.2	38.6	1,B,ii,b
28076	School Lane, Hints, Tamworth	CN011L	45.2	39.8	51.8	70.3	45.9	44.2	39.7	1,C,ii,c

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding ³
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/ Weekend L _{pAeq}	Night-time L _{pAeq}	
28361	Tamworth Road, Lichfield	CN083S	71.9	67.1	83.5	89.1	72.5	70.4	68.0	2,C,i,c
28834	Jerry's Lane, Lichfield	CN028S	51.1	49.7	63.2	72.7	52.2	49.3	49.8	2,C,ii,c
28865	Levett Road, Lichfield	CN133S	50.2	33.7	49.7	54.0	51	47.3	33.6	2,C,ii,c
28886	Levett Road, Lichfield	CN133S	50.2	33.7	49.7	54.0	51	47.3	33.6	2,C,ii,c
28935	Levett Road, Lichfield	CN133S	56.2	39.7	55.7	60	57	53.3	39.6	2,A,i,c
28998	Tamworth Road, Lichfield	CN133S	69.2	52.7	65.7	70	70	66.3	52.6	2,BC,ii,c
154363	Portleys Lane, Drayton Bassett, Tamworth	CN031S	53.3	42.2	59	73.5	55.8	52.9	42.7	2,C,ii,c
155677	Shirrall Drive, Drayton Bassett, Tamworth	CN141S	49.7	48.9	49.6	61	52.6	47.3	50.6	2,A,i,c
157835	Portleys Lane, Drayton Bassett, Tamworth	CN031S	56.3	45.2	62	76.5	58.8	55.9	45.7	2,C,ii,c
701082	Jerry's Lane, Lichfield	CN028S	39.1	37.7	52.2	61.7	40.2	37.3	37.8	2,BC,iii,c
701083	Jerry's Lane, Lichfield	CN028S	41.1	39.7	56.2	65.7	42.2	39.3	39.8	2,B,ii,c
700646	Church Hill, Weeford, Lichfield	CN029S	52.3	49.6	50.2	74.4	55.3	50.1	48.1	2,A,i,c
701068	Tamworth Road, Lichfield	CN083S	71.9	67.1	83.5	89.1	72.5	70.4	68.0	2,C,ii,c
711029	Jerry's Lane, Lichfield	CN028S	44.1	42.7	56.2	65.7	45.2	42.3	42.8	2,A,i,c
720001	Bangley Lane, Hints, Tamworth	CN139S	41.7	38.0	53.9	66	42.8	45.9	47.8	2,B,ii,c
721002	Bangley Lane, Hints, Tamworth	CN139S	41.7	38.0	53.9	66.0	42.8	45.9	47.8	2,B,ii,c
901037	Rock Hill, Hints, Tamworth	CN136S	48.0	37.9	38.1	39.0	48.6	43.5	37.7	2,A,i,c
901038	Rock Hill, Hints, Lichfield	CN136S	50.0	39.9	40.1	41.0	50.6	45.5	39.7	2,C,ii,c

Appendix SV-002-021 | Environmental baseline

Assessment location ID	Area represented	Measurement location	Existing baseline sound level (dB)							Data source coding ³
			For operational sound assessment				For construction sound assessment			
			Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}	Arithmetic average of night-time L _{pAFmax,5min}	Highest night-time L _{pAFmax,5min}	Daytime L _{pAeq}	Evening/ Weekend L _{pAeq}	Night-time L _{pAeq}	
901039	Dog Lane, Weeford, Lichfield	CN136S	47.0	36.9	37.1	38.0	47.6	42.5	36.7	2,C,ii,C
901040	Rockery Lane, Canwell, Sutton Coldfield	CN038L	45.4	36.2	43.4	60.7	46.1	41.7	37.8	1,A,i,b
901041	Bangley Lane, Hints, Tamworth	CN038L	45.4	36.2	43.4	60.7	46.1	41.7	37.8	1,A,i,b

Table 2: Data source coding key

Code	Data source type
1	Long-term measurement location
2	Short-term (linked to simultaneous long-term)
3	Short-term (using profile from non-simultaneous long-term)
4	Short-term using standard (National Noise Incidence Study ⁴ or other) 24hr profile
5	Specific validated prediction
6	Predictions from other sources (Defra noise maps ⁵ , etc.)
7	Generic levels

Code	Corrections applied
A	Data from above source applied directly
B	Correction applied for screening
C	Correction applied for distance from source
D	Minimum level cut-off applied

Code	Distance from measurement
i	Data applied from a measurement at or very close to the assessment location
ii	Data applied from a local measurement location at a greater distance but noted to have equivalent acoustic climate
iii	Data applied from a distant measurement location where sound levels would be expected to be similar

Code	Uncertainty
a	Data are considered highly representative of the prevailing sound climate
b	Data are considered representative of the prevailing sound climate, but variations in measured levels indicate that there may be a higher degree of uncertainty than for (a)
c	Data are considered to be an estimate of the sound climate, (e.g. taken from Defra noise maps, etc.)

3.3 Future baseline methodology

Construction

- 3.3.1 The assessment of noise from construction activities assumes a baseline year of 2017. As a conservative assumption it has been assumed that no change in baseline sound levels will occur between the existing baseline (2012/13) and the future baseline year of 2017.
- 3.3.2 Due to the duration of the construction work and as the precise timing of the highest sound levels would be different in each location, using baseline sound levels for 2017 as the start of the construction period, provides a reasonable worst case assessment.

⁴ Building Research Establishment (2002), *National Noise Incidence Study 2000/2001*.

⁵ Defra, Noise Mapping England, <http://services.defra.gov.uk/wps/portal/noise/>; accessed 26 July 2013.

- 3.3.3 The assessment of construction traffic is based on future baseline traffic flows for 2021, as a year representative of the middle of the construction period.

Operation

- 3.3.4 Future baseline sound levels for operation (2026) have been calculated to account for changes in baseline sound sources between the date of the existing baseline sound levels and 2026.
- 3.3.5 Changes in existing sound sources between 2012/2013 and 2026 may result in changes to baseline sound levels.
- 3.3.6 For major transportation sources, data for existing and future baseline operations have been reviewed. Where changes may occur between the existing baseline and future baseline (2026) situations, expected changes in baseline sound level have been derived. For example, expected changes in traffic flow, composition and speed have been used to calculate changes in sound emission from roads using the methodology from the Calculation of Road Traffic Noise⁶.
- 3.3.7 The changes to major sound sources which have been identified in this area are summarised in Table 3.

Table 3: 2026 future baseline changes in sound sources

Sound Source affected	Cause of change in levels	Change in sound levels (existing baseline to 2026 future baseline) (dB)	
		Daytime L _{pAeq,16hr}	Night-time L _{pAeq,8hr}
A5 in the vicinity of Weeford	Increased traffic flow	0.8	0.3
Shirral Lane	Increased traffic flow	0.8	0.3
Drayton Lane	Increased traffic flow	1.2	0.3
A453 thorough Bangle, Mile Oak	Increased traffic flow	0.7	0.4
Rookery Lane	Increased traffic flow	0.8	0.3
Rock Hill throughout Hints	Increased traffic flow	1.2	0.3
A5 in the vicinity of Shenstone	Increased traffic flow	0.9	0.3
Flats Lane	Increased traffic flow	1.2	0.3
A51 in the vicinity of Whittington Heath	Increased traffic flow	0.8	0.3
Coppice Lane	Increased traffic flow	1.3	0.8
M6 Toll in the vicinity of Bassets Pole	Increased traffic flow	0.8	1.1
A5 Roman Road/Rock Hill	Increased traffic flow	0.7	1.0

⁶ Department of Transport (1988), *Calculation of Road Traffic Noise*.

4 References

Building Research Establishment (2002), *National Noise Incidence Study 2000/2001*.

Defra, Noise Mapping England, <http://services.defra.gov.uk/wps/portal/noise/>; accessed 26 July 2013.

Department of Transport (1988), *Calculation of Road Traffic Noise*.